

REMARKS

This application has been further amended to place the claims in better form for allowance. Claims 1-5, 9, 11, 19, 22, 25-32, 36, 38, 39, and 41-44 have been amended to clarify claim language and to provide proper antecedent basis. No new matter has been amended in any of the amended claims.

Reconsideration and allowance of the amended application are respectfully requested.

Examiner's interview on June 24, 2009

The undersigned conducted a telephone call with the Examiner to discuss the pending claims and the cited prior art on June 24, 2009. More specifically, some of the amendments to the claims were discussed. No agreement was reached.

Claims 1-7, 9-16, 18, 22-30, 32-37, 39-41 and 43-50 patentable under 35 USC 102(a)

Claims 1-7, 9-16, 18, 22-30, 32-37, 39-41 and 43-50 stand rejected under 35 USC 103(a) over Flagan in view of Russell. Applicant respectfully requests the Patent Office to withdraw the rejection because the claims as presented in this response are distinctly patentable.

Claim 1, for example, recites a thermal control engaged to said chamber to produce both a monotonic thermal profile and a monotonic temperature gradient in a stream-wise direction of the aerosol flow from said input to said output in said cloud condensation nuclei chamber. The combined teaching of Flagan and Russell fails to disclose this aspect of Claim 1.

In the cited Flagan, the cloud condensation nucleus spectrometer has a streamwise segmented condensation nucleus growth column. Notably, the condensation nucleus growth column in the cited Flagan includes alternating hot and cold temperature-maintaining segments arranged next to one another. See the Abstract and the text in Col. 4, lines 6-29 of the cited Flagan. The temperature profile along the condensation column 120 not only changes in an alternating manner between high and low temperatures from one segment to another but the temperature difference also increases in the hot column segments 220 from the input end 120A to the output end 120B.

This design in the cited Flagan is different from the recited “monotonic thermal profile in a stream-wise direction of the aerosol flow” in Claim 1 because the alternating hot and cold temperature-maintaining segments arranged next to one another in the cited Flagan does not produce a monotonic thermal profile in the stream-wise direction and is used to produce a monotonically increasing supersaturation profile along the center line of the condensation column 120 and maintain a desired high spatial rate throughout the condensation column 120 without a significant decay near the output end 120B.

FIG. 12 and Co. 5, lines 10-18 in the cited Russell are relied upon in the Office Action to show the recited “monotonic thermal profile in a stream-wise direction of the aerosol flow” in Claim 1. This contention, however, lacks support in Russell. Co. 5, lines 10-18 in the cited Russell mentions temperature control by AMCAD but is silent as to the temperature profile in a stream-wise direction of the aerosol flow inside the chamber. FIG. 12 shows temperature measurements at different positions expressed in Julian dates along a flight path of the AMCAD instrument on aircraft and thus has no connection or bearing with respect to Claim 1 and other claims in this patent application.

Therefore, Claim 1 is distinctly different from the combined teaching in the cited Flagan and Ressell and is patentable under 35 USC 103(a).

Claims 2--7, 9-16, 18, 22-30, 32-37, 39-41 and 43-50 are patentable under 35 USC 103(a) based on the above arguments for Claim 1 and on their own merits.

**Claims 19-21, 31, 38 and 42 patentable under 35 USC 103(a)**

Claims 19-21, 31, 38 and 42 stand rejected under 35 USC 103(a) over Flagan in view of Russell and further in view of Hollander. Applicant respectfully requests the Patent Office to withdraw the rejection because these claims as presented in this response are distinctly patentable.

As discussed above with respect to Claim 1, the combined teaching in the cited Flagan and Russell as stated in the office action fails to disclose Claims 19-21, 31, 38 and 42. The cited teaching in the cited Hollander is used to provide teaching on the humidity control in the sheath

flow and thus does not cure this defect in the combined teaching of the cited Flagan and Russell. Therefore, Claims 19-21, 31, 38 and 42 are different from the combined teaching of the cited Flagan, Russell and Hollander and are patentable under 35 USC 103(a).

### CONCLUSION

All pending claims are distinctly different from the combined teachings of the cited prior art as stated in the office action. Therefore, all rejections must be withdrawn. All pending claims are patentable and are now in a full condition for allowance.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

This response is filed timely with an extension for 1 month. Please apply a charge for the extension of time and any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: June 24, 2009

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